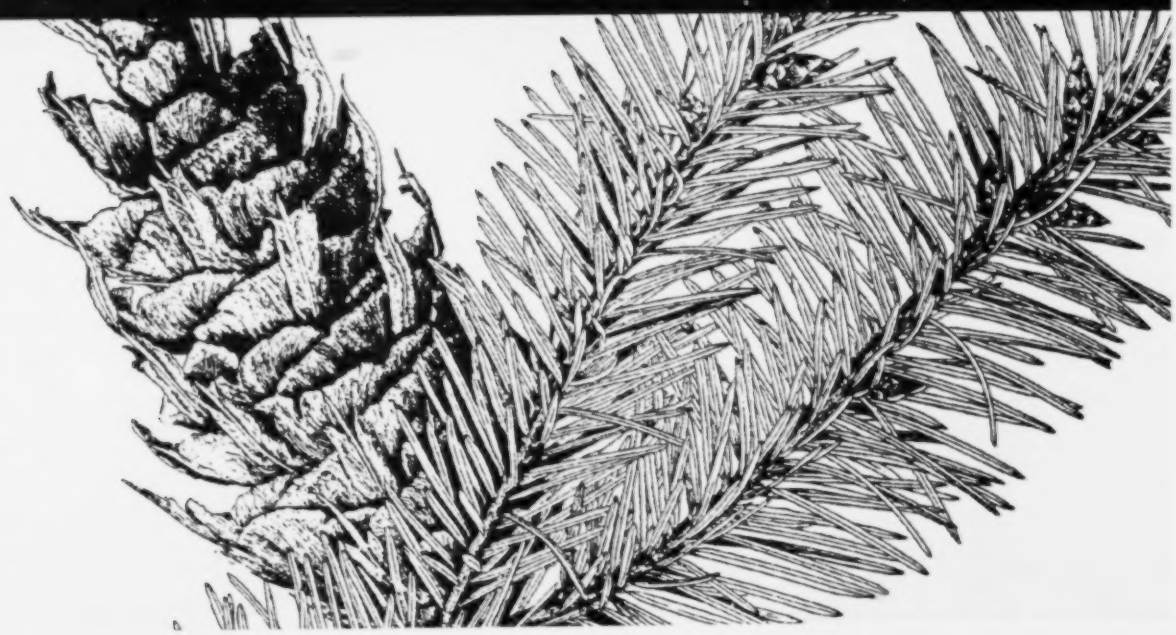
Ready for Change

Crisis and Opportunity in the Coast Forest Industry

Peter H. Pearse

A Report to the Minister of Forests on British Columbia's Coastal Forest Industry.

Vancouver, November 2001



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The forest industry in the coastal region of British Columbia, historically the driving force of the region's economy, has been struggling for several years. The available supply of timber is declining, costs have risen and product markets have weakened. In consequence, profits have withered, mills have closed, employment has fallen and whole communities have lost their economic base. The present outlook is for more, if not accelerating, decline.

Yet there is every reason to believe the vast forests of this region are capable of sustaining a healthy industry. What would that healthier industry look like? What would it take to turn things around? Would it be worth the cost and dislocation? These questions motivated the investigation that led to this report.

Last September, the Minister of Forests, the Honorable Michael de Jong, appointed me as a Special Advisor to review the faltering forest industry in British Columbia's coast region and to investigate the causes of its weakening performance. I was also asked to examine the opportunities for a more productive and sustainable industry, and how it might be realized. This report summarizes my findings.

My report begins with a brief description of the deteriorating condition of the coastal forest industry, emphasizing the recent decline in its financial performance, production and markets, which together have led to the industry's current plight. The following three sections examine in more detail the problems that have arisen in harvesting, manufacturing and marketing forest products, and the impacts of new regulatory measures. The final segments consider the potential for a more healthy, sustainable industry, and the changes that would have to be made to realize it.

In carrying out this project I benefited from the observations and advice of a considerable number of people with interests in the coastal forest industry – chief executives of the major operating companies, representatives of forest workers and contractors, woodlot owners, advocates of environmental protection, local government officials, First Nations leaders, independent consultants and others. I want to acknowledge, especially, the assistance I received from officials of the Ministry of Forests, who generously responded to my many requests for data and other information, and particularly Mr. Terry Chantler, who helped me throughout this project. I benefited, as well, from a large number of recent staff reports, consultants' studies and reviews on related matters. That said, this is an independent review, and I am solely responsible for the information contained in it and any consequent failures of understanding.

Peter H. Pearse, *C.M.*
Vancouver
November, 2001

As this report is written, British Columbia's forest industry is reeling from new U.S. trade actions against Canadian lumber. Logging operations and sawmills throughout the province are shutting down, throwing thousands of employees out of work and undermining the economic foundation of many communities.

Yet this is only one of the forest industry's difficulties. The coastal sector, particularly, is facing a declining raw material supply, excess manufacturing capacity and obsolete equipment. Low returns on capital have deterred investment, high costs have reduced competitiveness in world markets for forest products, and a weak Japanese market and growing foreign competition have added to the barriers to U.S. markets. My purpose in the following pages is to explain the crisis the coast forest industry now faces, and why it must undergo major change.

The Industry and the Region

The coast forest industry depends on the vast forests stretching from Prince Rupert to Vancouver, including all the mainland west of the Cascade Mountains and the offshore islands – one of the world's great coniferous forest regions.

Since early European settlement, the forest industry has been the major engine of economic development in this region. For more than a century it has depended upon the original natural stock of timber – old growth – famous for its impressive size, quality and value. Today, original timber is becoming scarce in the more developed areas and the industry must adapt to managed, second-growth forests. This transition underlies some of the major industry difficulties discussed in this report.

The coastal logging industry, made up of hundreds of large and small operations, is now widely dispersed throughout the coast. It employs some 11,442 people, mostly in highly skilled and well paid occupations, and provides the economic base for many coastal communities.

Forest products manufacturing has always been concentrated around the southern Georgia Strait – on southeastern Vancouver Island, the Lower Mainland and the Fraser estuary. But there are a number of more remote manufacturing centres along the coast, often providing virtually the entire economic base of communities. In 2000, forest products manufacturing employed 12,647 workers: 6,700 in lumber and other solid wood products, the remainder in pulp and paper.

Net earnings in coast logging and lumber production

In 2000, the coast industry produced forest products valued at $3.2 billion. Most were sold in foreign markets, mainly the United States and Japan. Interruptions of sales to both of these markets in recent years have sharply reduced the industry's earnings.

Coast forests provide much more than timber. They provide habitat for wildlife and spawning grounds for salmon. First Nations depend on them for cultural as well as economic values. And they have become a focus of international environmental interest and concern. Some of the forest industry's present problems arise from conflicts with these other forest values.

Symptoms of Crisis

My investigation of the coastal forest industry has revealed strong evidence of an industry in crisis. All the usual measures of economic performance lead to the conclusion that the industry cannot sustain itself on its present path.

Declining earnings

The most obvious indicator of faltering financial performance is declining profits. Figure 1 shows the coast logging and lumber industries' record of net earnings over the last decade. Following the recession of the early 1990s, a short-lived resurgence was followed by steep decline over the last eight years. Earnings in 2001 are expected to be substantially negative.

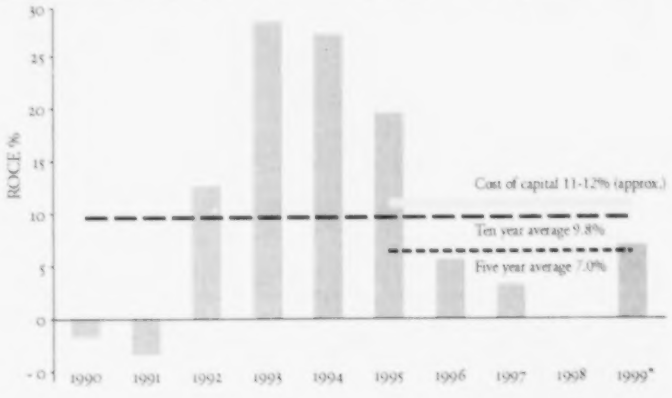
Inadequate returns on invested capital

An important indicator of the financial performance of an industry is its rate of return on invested capital. Figure 2 shows the average rate of return on capital employed in the coastal logging and lumber industries over the last 10 years appropriately weighted for the proportions of debt and equity capital. The figures for 2000 and 2001 are not available, but the rate of return in the current year will almost certainly be negative. The cost of capital for the coast forest industry varies over time and among companies, but it has been in the order of 11 to 12 percent in recent years.

Two important conclusions can be drawn from this evidence. One is that since 1995 the industry's return on capital has fallen well short of its cost of capital. This means that capital invested in the forest industry earns less than it would in other activities of similar risk – an obvious deterrent to investment. Returns have been particularly low in lumber manufacturing.

figure 2.

Return On Capital Employed in coast logging and lumber production



Source: ROCE data PricewaterhouseCoopers. Weighted average rate of return.
Cost of capital estimated.

The other observation is that the net return has been declining. This is not a picture of an industry that investors find attractive, and it is becoming increasingly unattractive. Further evidence of investors' pessimism is the deep slide, over the past eight years, in the price of shares of publicly-traded companies operating on the coast (and, even more telling for financial analysts, in the ratio of the price to the company's per-share book value). This, and declining capital investment, suggests that the industry in its present form and on its present path is financially unsustainable.

Deteriorating plant and equipment

A third indicator of an industry in decline, which follows from the second, is that the industry's capital in plant and equipment is deteriorating. Figure 3 shows the decline in capital expenditures in both the logging and lumber sectors since the mid-1990s. Over this period, capital spending has been insufficient to maintain the industry's capital stock, which has declined as a result. This is particularly so in the forest products manufacturing sector, where it supports the observation of industry experts that coastal pulp mills and sawmills are becoming obsolete and hence uncompetitive with producers in other regions, most of which show much healthier rates of capital replacement

Capital expenditures in coast logging and lumber production

Uncompetitive Costs

Aging plant and equipment is only one cause of the high costs rendering coastal operations uncompetitive among suppliers of wood products in international markets. Figure 4 compares the total cost of producing lumber, the primary product of coastal sawmills, with the corresponding cost in other world producing regions. Costs on the coast are conspicuously higher than in any other region and more than 40 percent higher than the average of all other regions. Coast producers' costs of both log production and lumber manufacturing are higher than those of competitors, significantly higher for logs.

The disadvantage of high production costs is offset somewhat by the relatively high-value products coast producers manufacture, but not entirely, as the coast industry's meagre earnings confirm.

Also conspicuous in Figure 4 is the high cost of labour relative to other regions (8). Labour costs account for 41 percent of total lumber production costs and are more than double the level in the U.S. Pacific Northwest – the most comparable region.

The cost of producing logs and lumber in the coast region escalated in the 1990s. This is a root cause of the industry's present economic weakness, which I discuss below.

Underutilized capacity

Another indicator of the efficiency of an industry is the proportion of its capacity that is utilized – generally, the higher the utilization rate, the greater the efficiency of plant and equipment. As I explain in more detail later, the utilization rate in coastal forest products manufacturing is well below the efficient level for this industry. Moreover, the utilization rate has been declining over most of the last decade, contributing to the high cost of manufacturing lumber.

Declining raw material supply

Finally, the industry's raw material supply – the harvest of timber in the Coast region – cannot be sustained at its present level. In the next section of this report, I explain the necessity of reduction in the allowable annual cut, because of the limited volume of timber available over the next couple of decades. The quality and value of the timber is declining as well, and not all of the available timber will be economically worthwhile to harvest.

In other words, the currently permitted level of forest harvesting is not sustainable, and must be reduced. This will force a reduction, as well, in the scale of forest products manufacturing.

The Consequences: Mill Shutdowns and Displaced Workers

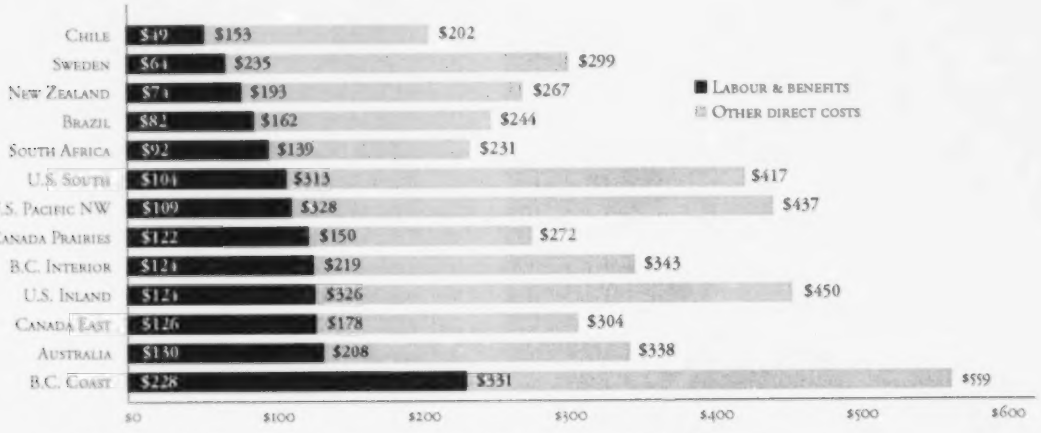
These indicators of the coastal forest industry's performance are symptoms of an industry in serious trouble. The consequences of such poor performance are clearly evident in the succession of operations' shutdowns and closures in recent years. Within the last four years alone, no less than eight large sawmills, a pulp mill and two panel board mills have closed permanently and many more have curtailed operations or closed temporarily. Communities heavily dependent on the forest industry, such as Port Alberni, Ladysmith, Tahsis, Youbou, Coquitlam and Prince Rupert, have been hit particularly hard. All this was happening well before the United States applied crippling duties against lumber imports, effectively shutting down much of the coastal forest industry.

Thousands of workers in forest operations and mills have borne the brunt of these disruptions. Figure 5 shows the decline in employment in the coastal forest industry during the 1990s – a decrease of 5 percent in logging, 40 percent in sawmills and 36 percent in pulp and paper mills. This followed an even steeper decline in the 1980s, when the number employed fell by half.

Even more disturbing than these recent dislocations, however, is the outlook for continuing closures and loss of jobs. The declining timber supply coupled with the already substantial excess capacity in manufacturing plant, the increasing scale of efficient operations, and the losses being suffered by many operations, will force companies to consolidate operations further, through mergers, buyouts and plant shutdowns.

figure 4.

Cost of producing lumber by world supply regions



Source: PricewaterhouseCoopers. Labour and other direct costs in Canadian dollars per thousand board feet in 2000. Excludes cedar.

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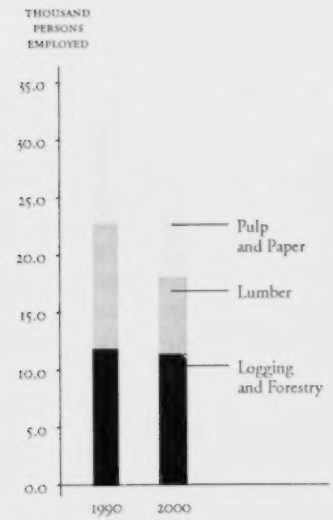
figure 5.

Employment in the coast forest industry



Source: PricewaterhouseCoopers and Forest Industrial Relations

The 1990s Turning Point

With the benefit of hindsight, it seems clear that the 1990s marked a turning point in the development of the coastal forest industry. During this decade, political priority turned from expanding the forest industry to ways of containing it, through a wave of provincial regulatory controls on industrial forest operations, including the massive Forest Practices Code. Vast areas of forest land were withdrawn from commercial use for wilderness, parks, and other protected areas. A "super-tumpage" was imposed on timber harvested. The industry, especially its woods operations, was forced to retreat.

Abroad, barriers to the industry's markets began to rise. Environmental boycotts against the industry's products began to influence foreign customers. Europe restricted imports of green lumber. The United States took a series of actions against Canadian lumber, claiming unfair competition with domestic producers. Japan slid into recession. By 1997, the industry's market opportunities were sharply narrowed.

At home, construction of new mills on the coast fell away, as did investment in capital replacement and improvement of existing mills. And, most fundamentally, the industry stopped growing and began to contract, with mills closing at an unprecedented rate.

Although the industry's profits rose and fell during the 1990s, it is important to recognise that the decline in the latter half of the decade was not simply the downside of a cycle. The short-lived resurgence following the recession of the early 1990s disguised changes taking place that would permanently impair the industry's financial performance. Logging, already becoming remote and costly, was subjected to new and wide-ranging controls on forest practices that increased costs significantly; a change in stumpage policy increased the price of timber. In the mills, while output declined, regulatory requirements kept ageing and obsolete mills operating at high costs. And in the industry's major markets, aggressive new competitors, with new and often superior products, permanently established themselves and began expanding their market shares. These changes will not be reversed by a cyclical recovery.

Further evidence that the industry's problems are more than cyclical is its declining performance during the 1990s, when the conditions that historically have assured its prosperity were all in place – a burgeoning U.S. economy, low interest rates and extraordinarily low Canadian dollar exchange rates. Indeed, the forest industry in other regions, including elsewhere in Canada, performed well, while the coast industry languished.

All this presents a challenge to the industry unprecedented in its history, and to government because it is so deeply involved with the industry both as its regulator and landlord of the forests the industry depends on. In the following sections I examine in more detail the causes of the industry's poor performance and the opportunities for improvement.

To understand the coastal forest industry's present predicament we must begin with its resource base – the forest. The of raw material available from the coastal forest is declining in both quantity and quality. This is an important contributor to the forced adjustment the industry is currently undergoing.

Rising Cost – Declining Value

Ever since the coastal forest industry began in the mid-19th century, it has drawn its raw material from the original stock of natural timber. Over the decades, through cycles of boom and bust, the harvest expanded. The general pattern was to take the nearest, most accessible and most valuable timber first, gradually expanding up coastal valleys and mountainsides into more remote and lower quality timber, less valuable and costlier to harvest. Today, loggers are approaching the end of the merchantable old growth in many areas.

As the best of the original timber has been taken, the premium that world markets once paid for its exceptional size and quality, and for its end products, has diminished. Moreover, because the frontier of logging is now in remote, difficult terrain, and logging standards have become ever more demanding, the cost of harvesting has risen sharply. Stumpage fees have increased as well. Caught in the vise of rising costs and declining harvest value, the primary sector of the industry no longer earns an adequate return, and when markets are weak, as they are today, it suffers heavy losses.

Logs are the end product of the logging sector and the raw material for the sawmilling sector, and the cost of producing them determines, to large degree, the health and competitiveness of both sectors. In the next section of this report I describe the sharp increase, over the past decade, in the cost of producing logs on the coast.

Diminishing Supply of Timber

Aggravating these trends, the supply of timber available to support the industry up to now cannot be maintained. As the remaining stands of old-growth timber are removed, harvesting must be reduced for several decades until more of the second-growth stands, established during the last half century, reach maturity.

The system of regulating the timber supply, or determining the allowable annual cut, is complicated and contentious. Some knowledgeable foresters believe the Ministry underestimates growth rates and sustainable harvests. But for present purposes it is sufficient to point to one well-supported fact; the Ministry's present allowable annual cut of timber in the coastal region exceeds the supply of harvestable timber that will be available over the next few decades, though it may increase to a long-term sustainable level thereafter. Even an aggressive silvicultural effort, though it might increase yields in the more distant future, could not significantly raise the volume in forests reaching maturity in the next couple of decades. So for this period, at least, the industry must be based on a reduced timber supply.

Another, quite separate, cause for the projected decline in the timber supply is the policy, vigorously pursued in recent years, of setting aside vast areas of coastal forest for protection as parkland, wilderness and various types of reserve. In the 1990s, protected areas on the coast more than doubled.

Figure 6 illustrates the trend in the timber supply from the coastal forests subject to harvest regulation (this excludes, mainly, certain private forest land). After increasing the allowable annual cut until 1980, the Ministry began to reduce it to the present level of 21 million cubic metres per year. Its best estimate, marked by the upper edge of the shaded band in Figure 6, is that it will continue to decline until it bottoms out at roughly 17 million cubic metres around 2040.

Figure 6
Allowable annual cut in coastal forests

The Ministry's projection of future timber supply does not allow for the full impact of the setting aside, earlier this year, of extensive tracts of forest in the mid-coast as protected areas. This and related effects of management plans are expected to reduce future timber supply by some 600,000 cubic metres per year, which accounts for the downward jog, in Figure 6, in the lower edge of the shaded band at the year 2001. New ecosystem-based, land-use plans, currently being completed for the coast, are also expected to encroach on the available timber supply, which accounts for the widening of the shaded band. (These possibilities, below the official projection, are my rough estimates of likely outcomes, for illustration purposes only.)

The supply of timber limits the viable size of both the primary (logging) sector and the secondary (manufacturing) sector of the forest industry. Recently, the declining allowable annual cut has been overshadowed by the reduction in harvest rates due to economic circumstances. By either cause, lower harvests have contributed to overcapacity, and the expected further decline will aggravate the problem, adversely affecting economic performance in both logging and manufacturing. In short, an efficient forest industry must be trimmed to the timber supply, and because the timber supply over the next couple of decades will be less than the supply hitherto, the capacity of the forest industry must be reduced as well.

Changing Composition

The composition of the harvest must also change, because it presently consists of a much higher proportion of the valuable Douglas-fir and cedar, and a lower proportion of low-value species, than is found in the forest. The root of this problem is weak demand and low prices for the more abundant hemlock and balsam, discussed below.

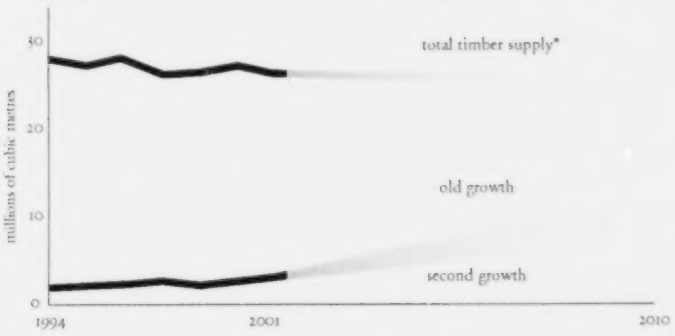
The transition from old growth to second growth also involves significant changes in the composition of the harvest. Some of the changes will be welcome. For example, much of the second growth nearing maturity is easily accessible, close to tidewater and mills, where roads are already in place. Harvesting second growth usually raises fewer environmental problems than harvesting old growth. The trees have fewer defects and decay, are more uniform, and easier to handle with machinery. On the other hand, the most advanced second growth is close to urban areas where industrial forestry conflicts with recreation and aesthetic values. And second growth lacks the unique qualities of old growth, its characteristics not greatly different from abundant supplies of competing softwood timber from the United States, Europe, Russia and the rest of Canada.

The transition to second growth is well advanced. The harvest of one of the five major companies on the coast is already more than half second growth, and another is approaching that level. Figure 7 shows the rapidly increasing proportion of second growth in the coastal harvest.

The importance of this is that the timber supply is changing in ways that call for different logging and manufacturing technology and equipment. The end products will also be different. These changes necessitate substantial investment in new plant and equipment and in product and market development.

figure 7.

Second growth component of coast timber supply



Source: Historical data and AAC projection: Ministry of Forests
* Allowable annual cut on regulated lands plus unregulated harvest

Most of the existing mills on the coast are designed to process large old-growth logs. They are not appropriate for manufacturing second growth, and, for practical purposes, cannot do so economically because they employ unsuitable technology and are in unsuitable locations.

The industry has been slow to reconfigure its manufacturing plants to accommodate second-growth timber, due, in part, to government regulations that require companies to maintain their existing mills. It is also due, in part, to the existing surplus capacity in coastal sawmilling, and the poor financial performance of the industry in recent years, all of which have impeded new mill construction.

Later in this report I discuss the industry restructuring needed to efficiently utilize the expected timber supply over the next decade. This calls for substantial new capital investment, which will be forthcoming only if the industry's financial performance and outlook are significantly improved.

The harvesting or logging sector of the coast forest industry is widely dispersed through the mainland coast and islands, employing some 11,400 people in skilled occupations. This industry permeates the undeveloped regions of the coast more than any other, providing incomes and employment to rural communities.

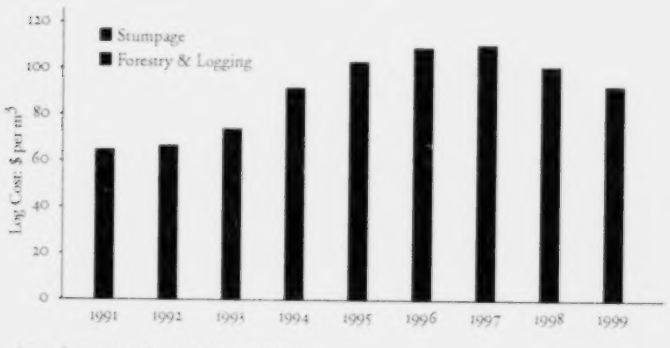
The structure of this primary sector of the forest industry has been shaped by provincial forest policy. Early in the last century, the province resolved to retain ownership of forest land, so that today, apart from some earlier grants of land mostly on Vancouver Island, the forests belong to the Crown. Rights to harvest timber are mostly allocated to large operating companies through licences. Sometimes the licensees log their own timber, but they employ contractors to harvest more than half the total. Most of the employees of both licensees and contractors are organized by the Industrial, Wood and Allied Workers of Canada.

After decades of gradual concentration the coast industry is now dominated by five large companies, which account for most of the timber harvested. The remainder is harvested by a large number of small-scale enterprises, logging timber on private lands or Crown timber allocated through a variety of licensing arrangements.

Earlier, and in Figure 4, I noted that the cost of producing lumber in B.C. coastal mills is the highest among the world's major producing regions. Nearly 70 percent of the total cost is the cost of raw material – logs.

figure 8.

Cost of logs produced



Source: PricewaterhouseCoopers and Ministry of Forests.

The cost of logs has increased substantially over the last decade. As Figure 8 indicates, both of the two components of this cost – logging cost and stumpage – have risen. The last couple of years shows a modest decrease, largely due to adjustments in stumpage charges, but partly resulting from modification of forest practices regulations affecting logging costs. The substantial increase in the cost of producing logs during the 1990s has resulted in serious deterioration of the competitive position of the whole coast forest industry.

Performance-Impeding Regulation

Over past decades, the provincial government has adopted a host of regulations and controls governing the way forests are developed and timber harvested. Their purposes vary. But many have little to do with the way the forests themselves should be managed; they are designed to control the structure of the industry, its level of activity over business cycles, employment in particular sectors and community impacts.

Later, I question the effectiveness of some of these measures in meeting their objectives. Here, I want to point out that whether effective or not, all of them carry a cost. Because they prevent logging and manufacturing enterprises from using timber in the most advantageous way, they lower the net return it yields and contribute to the industry's weak financial performance.

In the following paragraphs I highlight five particularly troublesome regulatory arrangements which are major impediments to the coast forest industry's ability to realize the full value of the forest resources it uses: controls on the rate of harvesting, utilization standards, restrictions on forest practices, the stumpage system and the tenure system on Crown lands. These are not the only regulatory obstacles to efficient forest use, but they have an especially heavy impact on the economic benefits from commercial use of forests and on the financial performance of the forest industry. They illustrate the need for an overhaul of the framework of government policies and industrial practices within which the industry operates, which I discuss later in this report.

Controls on the Rate of Harvesting

Almost all Crown timber in British Columbia is harvested under licences that require the licensee to harvest an "allowable annual cut" each year. These rules apply as well to private timberland incorporated into Tree Farm Licences and Woodlot Licences.

The annual cut of each licensed unit is specified in cubic metres, and in most cases the licensee or owner must harvest, each year, within 50 percent of the specified volume and, more stringently, within 10 percent of the specified amount over each five-year period. Monetary penalties apply if the operators exceed these limits, and if their harvest falls short of them, their allowable annual cut may be reduced under the so-called "use it or lose it" policy.

These cut-control regulations diminish the potential value of timber by preventing operators from taking full advantage of favourable markets and cutting back when markets are depressed. The regulations have other adverse effects as well. By requiring operators to put more timber on the market than they prefer to produce when markets are weak, and less when markets are strong, they aggravate market fluctuations – a complaint of U.S. protagonists in the softwood lumber dispute.

Though not often enforced, the penalties create uncertainty by weakening the security of timber rights. And from the viewpoint of the public interest, treating undercutting on a par with overcutting makes little sense, because the Crown's obligation to ensure that forests are not overharvested is not paralleled by an obligation to prevent underharvesting.

The actual impact of cut controls is difficult to assess. Probably most serious is the pressure, after years of undercutting, to accelerate harvests to meet five-year cut requirements. Indeed, an increase in harvesting in 1999 is believed to be partly due to fears of losing timber rights for failure to meet five-year cut requirements.

After years of undercutting, these cut-control rules present government with a dilemma. Under the "use it or lose it" penalty, the government could reduce the licensees' allowable harvests, but this would aggravate the pressure on operators to reduce mill capacities. It might also reduce their employment in woods operations when market conditions improve. Alternatively, licensees might be permitted to carry forward their accumulated shortfall, as has occasionally been done, but this simply amounts to waiving the rules.

Cut controls were designed to ensure that harvesting conform to forest management plans drawn up according to outdated sustained-yield, forest management theories, in which undercutting and overcutting are both regulated, volume is the sole basis for regulation, and market forces are ignored rather than adapted to. Cut controls serve no valid silvicultural purpose. And they obviously impair the potential returns to forest production.

More recently, these controls have been defended as a means of stabilizing employment over business cycles. Later in this report, I suggest that employment objectives are not efficiently advanced by such manipulations of forest management, and the cost, though indirect and difficult to measure, is often high, thus reducing the returns to forest production. Here, it is sufficient to observe that cut controls have proven to be conspicuously unsuccessful as instruments for stabilizing employment.

Clearly, rights to Crown timber allocated to private enterprises must be specified quantitatively and penalties are called for if licensees exploit more than the quantity allocated to them over the term of their contracts. But regulations that force companies to cut public timber, even when markets are so weak it means incurring a loss, have the effect of lowering the economic return on forest resources to the detriment of both companies that harvest them and the public that owns them.

Utilization Standards

Utilization standards specify the height of stumps, diameter of tops that may be left as slash, and the dimensions and quality of logs that must be recovered in logging operations. The present standards were determined with little if any reference to economic considerations. These rules have a major impact on the cost of logging and, hence, on the value of timber.

One of the few studies on this subject found that logging to the government's utilization standard, rather than to an economic standard (that is, removing only logs that contributed a positive net return) lowered the net return from roughly $2000 per hectare to a loss of some $1200 per hectare (10). I have no reason to believe these findings are unusual, though the economic impact of utilization standards can be expected to vary widely, depending on forest conditions and market circumstances. It is because these rules prevent operators from responding flexibly to these conditions that they are a serious impediment to maximizing the value of timber.

Controls on Forest Practices

Over the decades, regulations governing forest practices have multiplied, from basic fire precautions to detailed rules about road building, logging patterns, utilization standards, silviculture and reforestation. In the 1990s, a massive new layer of regulation was imposed on forest operations through several new policies and statutes, the most prominent being the 1995 *Forest Practices Code*.

The *Forest Practices Code* has been controversial. Environmental advocates have praised its detailed requirements for protecting wildlife, soils and riparian areas; logging operators have criticized its costly impositions, and foresters have complained of its rigid specifications, leaving little scope for professional judgement to deal with varying forest conditions. My own observations confirm two widely held assessments of the Code. One is that it has brought about a significant improvement in road building, logging and silvicultural practices, especially with respect to the protection of forest ecosystems, environment and aesthetic values. The other is that the code's preoccupation with rules and procedures governing how activities must be conducted, rather than the desired results, makes it complex, inefficient, and unnecessarily costly.

Certainly the cost of administering and enforcing the Code is disturbingly high (4). The *Forest Practices Code* is a bulky statute of 252 sections, supplemented with 19 Regulations and 38 Guidebooks. It prescribes more than 4500 regulatory requirements that forest operators must comply with and Ministry officials must enforce. One of several studies of the cost of the Code is a detailed analysis by a group of independent consultants led by KPMG Chartered Accountants in the mid 1990s, which showed that the Code increased coastal forestry and logging costs by $20 per cubic metre (5).

Here, I do not intend to comment on the adequacy of the detailed provisions of the Code either individually or collectively in terms of the environmental, silvicultural and other standards they aspire to: that is an exceedingly complex issue which I cannot attempt in this investigation. However, I do want to draw attention to the impact on the forest industry of its awkward bureaucratic approach to regulating behaviour – its emphasis on procedures and process rather than on results.

The alternative is regulations that specify the results to be achieved and penalties for failure to achieve them, putting the onus on operations managers to determine how to comply and providing them the flexibility to determine the most efficient means of doing so. There are plenty of examples of results-based regulation of this kind, and evaluation of forest practices controls in other countries and regions demonstrates the greater effectiveness of regulations based on outcomes rather than processes and procedures (9). Sweden and Alberta are two such examples. In British Columbia, the Private Forest Landowners Association, working with Ministry staff, developed such a set of regulations to protect public values on private forest lands in the Forest Land Reserve. And a number of pilot projects, aimed at testing results-based adaptations of the *Code* itself, have shown promise (3).

In short, the present regulatory controls on rates of harvesting, utilization and forest practices suffer from three general failures. First, they are almost entirely of the command and control type, with no incentives or effort to reward desired behaviour. The result is a burdensome and costly dependence on surveillance and enforcement. Second, they ignore their economic implications, even when they have major economic consequences. And third, they are designed to require operators to do things in certain ways, rather than to achieve certain results. In this region, because of the mostly Crown ownership of the forest and the government's close control of forest operations, these weaknesses in the design of regulations have a major impact on the industry's financial performance.

Stumpage

Stumpage is one of the most confusing and poorly understood issues of forest policy, but also among the most important. Few people, even within the forest industry, fully understand the labyrinth of stumpage administration, and it is a subject of endless disputation.

Stumpage is the price paid for Crown timber. It is the provincial government's primary means of recovering revenue from timber allocated to the forest industry. Last year, $1.4 billion was paid in stumpage and related charges for timber harvested.

Companies with licences to cut Crown timber are obliged to pay a stumpage fee on each cubic metre harvested. The main issue of controversy is the method used by the Ministry to calculate stumpage fees. The Comparative Value Pricing System, adopted in 1987, has been particularly contentious. Under this system the Ministry, having determined an average stumpage fee, or target rate, with reference to lumber and chip prices, then appraises individual cutting permits to determine their relative value, which is used to fix their stumpage rates in relation to the average rate.

Criticism of the stumpage system is based on several complaints. Forest companies argue that the target rate takes no account of the market value of the timber; consequently, the rates often exceed its value. U.S. lumber companies pressing for protection from imports of Canadian lumber argue the opposite: since rights to Crown timber are allocated without competition, there is no market test of the value of timber, and administratively set stumpage rates are too low, giving Canadian lumber producers an unfair advantage in U.S. markets. This is the main U.S. complaint in the continuing trade dispute over Canadian lumber sales in the United States.

There are other grounds for criticism as well:

- *While the fees are adjusted quarterly in response to changes in the prices of lumber and chips, the adjustments are insufficient and slow.*
- *Fees are assessed on the assumption that the logs will be delivered to a particular mill (usually the closest), though the highest value is obtained by delivering different logs to different mills.*
- *The system is susceptible to abuse, particularly in the way the relative values of cutting authorizations are determined.*
- *It imposes fees only on the timber licensees actually cut, not on all the timber allocated to them.*

The question of whether stumpage fees are higher or lower than the fair market value of the timber is fundamentally important to both the licensees who pay them and the public treasury receiving them. But the public interest extends well beyond the revenue to the need for a healthy environment for the forest industry, equitable treatment of those who depend on Crown timber, and harmonious trade relations with the United States. For the forest industry, stumpage charges are more than a substantial cost. The continuing debate, uncertainty, lack of confidence in the system, and disruption of trade arising from this issue are major impediments to the industry's improved performance.

Rights to Timber

Rights to harvest Crown timber are allocated among forest enterprises through a variety of licences. The two most important forms are Tree Farm Licences, with terms of 25 years, replaceable under an "evergreen" renewal system every 10 years, and Forest Licences, with variable terms of up to 20 years, most of which are replaceable after five. Both forms of tenure are allocated and replaced without competition.

These, and the minor types of licences over Crown forests are frail forms of property rights: their terms of 25 years or less are not long enough to grow forest crops in this region; their provisions for replacement are conditional; the rights they convey are narrowly confined to the timber on the land; and they are not enforceable against third parties. Forest Licences do not even define the area on which the licensee will operate over its term. And all licences are continuously vulnerable to changes in regulations and restrictions on how timber may be developed, harvested and managed, as well as changes in the stumpage price. In certain circumstances the government may delete portions of the cutting rights without compensation.

The security and value of timber rights is diminished further by restrictions on their transferability, which take two forms. First, anyone contemplating transfer or change in control of a licence holder must first obtain the written consent of the Minister. Second, if the transfer is approved and proceeds, the licence may be reduced by five percent of the allowable annual cut it authorises. The consent requirement creates uncertainty about the transferability of timber rights, especially in view of the Minister's wide discretion and history of varying decisions in this matter. Uncertainty, in turn, lowers the value of licences, and discourages transfers to users who can generate more value from them.

The take-back provision was introduced in an amendment to the *Forest Act* in the 1980s as a means of freeing up some of the over-committed timber supply. But it constitutes a significant penalty on transfers (unless it is reinstated to the transferee, as is sometimes done). It is also a deterrent to new investment in the industry. And because it impedes rationalization of operations, it conflicts with the public interest in this process.

Moreover, because licences are allocated and replaced without competition, and transfers and division of them are restricted, the holdings of rights and their geographical pattern are extremely inflexible. Licensees cannot rearrange and adjust their rights over time to meet changing patterns of utilization, transport infrastructure, corporate restructuring and so on. The long-run result is reduced net returns on timber, in the form of both profits to the users and revenues to the Crown.

Licences to Crown timber have been further weakened by rights and guarantees granted to third parties, which encroach on licensees' freedom to exercise their rights to their best advantage. The *Forest Act* requires licensees to employ contractors to log at least 50 percent of their harvests under Tree Farm Licences and a variable percentage – usually 50 percent also – under Forest Licences. Amendments adopted in 1996 further restrict their freedom to select and change their contractors and negotiate contract prices. As a result, individual contractor entitlements are secure, and they are sometimes bought and sold.

Licensees are further bound by a provision in their collective labour agreement which prohibits them from reducing the number of union positions when employing contractors. Whether the contracting requirement takes precedence over this restriction is unclear, and this has become a subject of litigation. The combination of these two requirements is a major impediment to change and adaptation in forest operations.

Unsettled land claims of coastal aboriginal people also raise questions about the security of rights to timber. While negotiations proceed slowly, temporary arrangements for involving local First Nations in industrial forest operations are being developed in some areas. Continuing efforts of environmental groups to have more land set aside as protected areas add further pressure on timber rights.

The narrow and insecure legal form of rights to Crown timber, the thick layer of controls and restrictions on how they may be exercised, and the entitlements and expectations of third parties diminishes the value of the rights themselves. Through the 1990s the security of rights to Crown timber, and the value licensees attach to them, have declined significantly. This is reflected in the values assigned to licenses in sales and mergers of companies. Clearly, the present forms of tenure over Crown forest fail to capture the potential value in timber resources.

The low value of rights to forest resources has a profound effect on corporate behaviour. Integrated companies tend to regard their mills as their main assets, and their timber rights only as necessary adjuncts to their manufacturing enterprises. The forests they use and manage are a source of raw material, but not valuable assets deserving of investment to enhance their productivity and value.

The insecurity of tenure over Crown forest is a major reason for the unwillingness on the part of the tenure holders to invest in forest enhancement. Studies show clearly that forest companies invest more in silviculture, per hectare, the more secure their tenure is over the forest – a finding that is not surprising, but the degree to which investment behaviour responds to security of tenure is striking *(11)*. The importance of this arises from the forest industry's on going shift from dependence on the original stock of natural timber to managed second growth. These new forests are much more responsive to cultivation and enhancement, so the industry's future prospects are linked to its current investments in silviculture. But under the present system the insecurity of rights to the forest reduces incentives to invest in it, and incentives are further diminished by the policy of capturing for the Crown, through stumpage charges, the value of any increased production resulting from silvicultural effort.

Put another way, the present forms of timber rights on Crown forests were designed years ago when the government needed simply a means of parcelling out nature's endowment of timber, much like mineral resources. Today, as long as we depend on the private sector to use and manage Crown forests, we need a tenure system that encourages them to invest in future forest crops, which requires, most importantly, long-term security of rights to the forest land.

Another important and outdated feature of the tenure system is the way it ties timber rights to sawmills and pulp mills. The main forms of rights to Crown timber, *Tree Farm Licences* and *Forest Licences*, as well as some of the *Timber Licenses* issued early in the last century, were explicitly designed to provide raw material to particular mills, existing or planned. This was at a time when provincial forest policy was aimed at encouraging forest industrial development, especially investment in forest products manufacturing. Today we have too much manufacturing capacity and no more timber available for allocation. Yet most licensees are still required to maintain a mill and process in it a volume of timber equal to the volume harvested under their licences. If the facility is closed or the throughput reduced below the required level, the Ministry may suspend or cancel the licence, or reduce the harvest it authorizes.

The penalty of cancellation of timber rights has never been invoked, but it presents a threat to companies contemplating closures, a threat the government has used to exact more mitigative measures than would otherwise be taken.

Over the decades, this policy has led to a variety of problems. One is the serious structural problem of overcapacity in manufacturing, because companies cannot close obsolete mills without putting their timber rights at risk. In addition, this policy encourages firms to manufacture the logs they harvest, eroding log markets and leaving small, non-integrated firms that specialize in either forestry or manufacturing at a disadvantage. In an effort to provide for these other types of forest enterprise, the government, instead of introducing more flexible arrangements, invented special forms of tenure for each – woodlot licences, "value-added" timber sales, other small business licences, community forest agreements – building higher walls between the sectors and further rigidifying the industry's structure in the face of changing external conditions and needs.

The tenure system is the centrepiece of forest policy in British Columbia. It determines who will have access to Crown timber, how they may develop and use it, how much they must pay for it and (as I discuss later) how they may manufacture and market it. But the present tenure system is obsolete, its deficiencies severely constraining the ability of the forest industry to generate value from Crown forests.

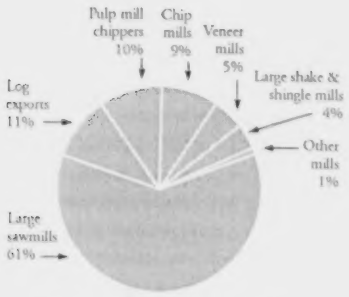
The general direction of needed reform of the tenure system is clear – improved security, greater flexibility in allocation and transfers of cutting rights and in utilization of logs, and greater freedom for companies to organize their enterprises, produce their products and market them to suit their business needs. But the heavy burden of established ownership and contractual rights over Crown forests makes reform of the tenure arrangements difficult. This is undoubtedly the most complicated and, at the same time, most important subject of forest policy reform.

The regulatory arrangements described above are only some of the more conspicuous ways in which forest policy and administration constrain the financial performance of the forest industry. The cost of many of these controls, being indirect, is difficult to measure. But it is undoubtedly substantial in many cases, and collectively these restrictions have a major impact on the industry's ability to generate value from the resources it uses.

In an earlier era, these indirect costs were absorbed in lower stumpage charges or profits, borne by an expanding industry and superior timber resources. Today, the premium on coastal timber has eroded, and these costs weigh heavily on an industry already staggering under the weight of growing competition, high production costs and weak markets.

The coastal forest products industry is large and diverse. It includes 14 pulp and paper mills, 47 large sawmills, 44 shake and shingle plants, and a number of manufacturers of veneer, plywood, panels, pulp chips, building logs, poles and other minor products. These various types of manufacture share the coast timber supply, amounting to some 24 million cubic metres in 2000, as illustrated in Figure 9.

figure 9.
Coast log utilization



Source: Ministry of Forests' Major Primary Timber Processing Facilities in British Columbia (unpublished).

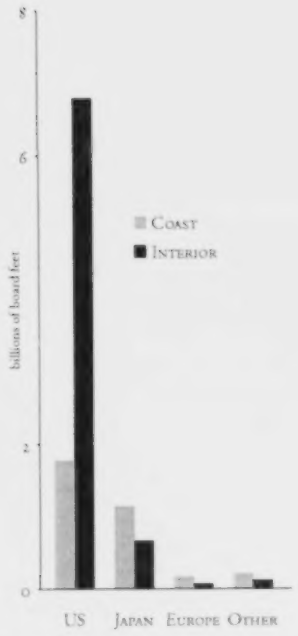
More than 60 percent of the total coast timber supply, about 15 million cubic metres, is processed in large sawmills. Of this, roughly half is turned into lumber; most of the remainder is processed into by-product chips, which provide the bulk of the raw material for pulp mills.

During the last few years, most of the major forest products companies have divested their pulp and paper operations on the coast, so this sector of the industry is now largely separate, in terms of ownership and control, from the logging and sawmilling sectors. Only one of the pulp and paper manufacturers holds significant timber rights. The link between the sectors is the supply of raw material – mainly pulp logs and chips – from the logging and sawmilling sectors, mainly through fibre supply contracts, to pulp mills. As a result, the pulp and paper sector is only indirectly affected by forest policies.

The coastal industry differs in notable respects from that of B.C.'s interior. It is less than half the size, processing only 22 million cubic metres of timber in 2000 compared to the interior's 53 million. But it produces less of the commodity grades of dimension lumber and more of the higher valued products such as flooring, door frames and laminated products. The timber is more varied as well; more than 40 percent of the harvest is hemlock and balsam and roughly a quarter each of cedar and Douglas-fir, while interior production is 80 percent whitewood – spruce, pine and balsam fir undifferentiated in dimension lumber markets.

The coastal industry is much more diversified, and the relationships between the logging and manufacturing sectors are much more complicated than in the interior. The manufacturing of cedar products is almost a separate industry. In addition to chips produced in coastal sawmills, coastal pulp mills manufacture chips from whole logs and import chips from the interior. And, as Figure 10 shows, the two regions differ as well in the markets they serve.

figure 10.
Coast and Interior lumber export markets



Source: Coast Forest and Lumber Association

Declining Performance

Most importantly for this report, the coastal forest products industry has been faring much worse than the interior sector in recent years, a result of weak and obstructed markets for its products and sharply increased costs of raw material and manufacturing, which have combined to sharply depress earnings. Earlier, I noted the low return on capital employed – even lower than the return in the logging sector, and well below the cost of capital.

Investment in lumber manufacturing has declined significantly over the last seven years, due to a combination of low earnings, inability to attract new capital, and uncertainties associated with access to markets, boycotts against coastal products in foreign markets, expansion of protected areas and aboriginal land claims. Failure to maintain capital and unsatisfactory financial performance generally, have left the industry in a precarious state.

The pulp and paper sector has suffered from reduced investment also, and its competitive position has seriously slipped. It has become a high-cost swing supplier, and in recent years has suffered heavy losses. A contributing factor has been the lower harvests of timber and reduced sawmill production of residual chips, which has forced pulp and paper mills to turn to more expensive sources of raw material, such as whole-log chipping.

Ongoing Rationalization

The unusual pressures on the industry over the last few years have resulted in closures and curtailments of mills at unprecedented rates. Since 1997 alone, no less than 11 large mills have closed permanently. Many more have experienced temporary closures or curtailment of operations. More closures are expected.

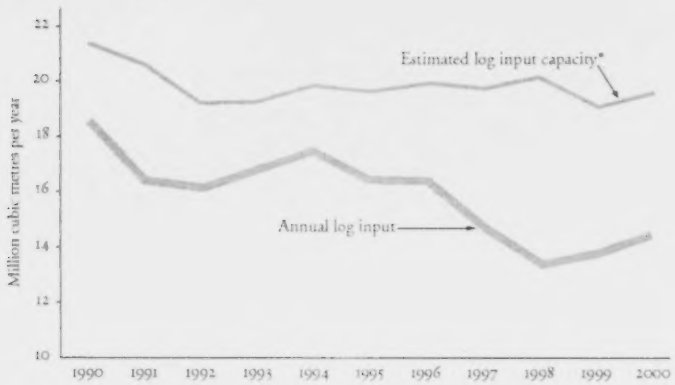
There are three primary reasons for this continuing rationalization. First, the amount of raw material available to the industry is declining. As explained earlier, the timber supply will continue to decline over the foreseeable future, putting pressure on more mills to close.

Second, there is already excess manufacturing capacity in coast sawmills, which is a major contributor to the industry's uncompetitive costs. Figure 11 indicates the increasing shortfall of capacity utilization. Today, it would take nearly 30 million cubic metres of logs per year to fully utilize the existing mill capacity, compared to the present available timber supply of 24 million and actual harvest of considerably less. In recent years lumber producers have been operating, on average, at less than 80 percent of capacity, while industry experts point to an efficient rate of at least 92 percent. In 2000, the 47 large coastal mills (those that produced more than three million board feet of lumber) operated, on average, at 75 percent, and almost a third of them used less than 50 percent of their capacities. Clearly, achieving a higher rate of capacity utilization, in the face of declining raw material supply, requires closure of some mills.

Third, sawmills on the coast typically operate two shifts per day, though the trend in modern sawmills is toward three shifts, which achieves lower costs per unit of output. Three-shift mills are already common in competing regions of the United States, Europe and elsewhere, including B.C.'s interior. The trend to three-shift operations will further reduce the number of mills that can operate efficiently. Later in this report I discuss the change in the number and type of sawmills over the next decade if the industry moves to a more efficient structure.

figure 11.

Coast sawmill capacity and utilization



Source: Ministry of Forests
*Based on 480 8-hour shifts per year

The pressure to rationalize manufacturing operations is building, as a result of the changing raw material supply, noted earlier, and the industry's sluggish response in adapting, upgrading and modernizing operations over the last decade. Thus changes in industrial structure, especially reductions of capacity, may be abrupt.

Regulatory Drag on Rationalization

It is important to note that the unprecedented number of shutdowns, suspensions and curtailments in the last few years has taken place in spite of governmental policies and regulations designed to prevent them. These regulatory impediments to industrial rationalization take several forms. Among the most distortive is the government's longstanding policy of requiring timber to be processed locally, in particular mills, or in mills owned by licence holders.

Earlier, I described the requirement of major licences to maintain mills, a policy that links timber rights and mills together in artificial, legally binding, integrated enterprises. Other licences require the licensees to supply timber to particular mills under fibre supply agreements. And all these requirements to maintain or supply local mills are bolstered by restrictions on the export of logs (discussed below).

Mill requirements oblige licensees to maintain even obsolete mills, mills in locations that are no longer suitable, and mills unsuited to changed timber supply or product markets. The cost, in the form of reduced value recovered from logs, is often substantial – in one reported case by as much as $60 per cubic metre (1).

Most importantly, in the broader context of the industry's efficient development, these requirements force companies to integrate forest operations with mills, present a barrier to log trading and efficient utilization of timber, impede rationalization of processing facilities and perpetuate inefficient operations.

Clearly, the manufacturing sector's ability to evolve and adapt to changing circumstances has been hampered by the regulatory restrictions noted above. In addition to these regulatory restraints, the government created a general environment resistant to rationalization of forest operations. Companies, naturally reticent to disrupt relations with employees and communities where they operate and to incur the costs of severance and other shutdown expenses, have been deterred further by the provincial government's recent opposition to almost any closures or interruption of operations. In many cases, governmental financial and other assistance, sometimes in large amounts, has been provided to companies to keep unprofitable mills operating.

The rationale for mill requirements and related controls has been based on worthy concerns for the stability of employment and communities, but they have not proven effective in advancing these goals because they undermine the financial viability of enterprises on which the employment depends. The frequency of mill closures and consequent dislocation of workers in recent years, despite these controls, attests to this perverse effect. Today, the manufacturing sector needs major restructuring, and the search for a more stable, sustainable and financially healthy industry calls for a thorough reconsideration of these regulations.

Maintaining access to markets for its products has frequently challenged the forest industry over the past century, but during the last few years obstacles to its main foreign markets have threatened the industry's performance as never before.

Foreign Barriers to Exports

For many years Japan has provided a major market for coast lumber producers. But since the mid-1990s a sluggish economy, a consequent slump in housing construction, new building restrictions in Japan and new competitors have battered the market for coast lumber. Over the same period coastal producers have been unable to turn to U.S. markets because of the strictures of the Softwood Lumber Agreement. After that agreement expired early this year, the United States imposed, in August, a crippling 19.3 percent interim countervailing duty on lumber shipments to that country, and in October added an anti-dumping duty of close to 13 percent.

Europe, also, has restricted imports of lumber, allegedly to protect against destructive pests. And an increasing number of foreign customers are being dissuaded from buying forest products from this region by critics of the industry's environmental performance.

As this report is written, British Columbia's forest industry is staggering under these barriers to its markets, especially the costly tax on exports to the United States. It should be noted that ad valorem charges of the kind recently imposed fall especially heavily on coast producers because of the relatively high-valued products they produce. Sawmills throughout the coast are partially or completely closed, more than half the normal workforce is unemployed, and there are continuing reports of new shutdowns.

The problem of obstructed access to foreign markets is not entirely in the hands of the coastal forest industry or the government of British Columbia. The dispute with the United States about imports of Canadian lumber is being addressed in Washington, Ottawa and elsewhere, with Canadian interests advanced by representatives of the federal and other provincial governments as well as British Columbia. Nevertheless, the forest industry and provincial government are influential parties in these negotiations, and they can help to ensure solidarity among Canadian interest groups and maintain the political priority this issue deserves. This is unquestionably the most urgent problem affecting the financial health of the forest industry.

A special challenge, and one with potentially major long-term implications for the coast forest industry, is the weakened market for hemlock lumber in Japan. Western hemlock is the most abundant species in coastal forests, and (with balsam fir which is usually treated together with it) accounts for some 60 percent of the forest inventory. While hemlock lumber has not been as widely accepted for structural uses as some other species, such as Douglas-fir, it has traditionally found a ready market in Japan for construction of traditional Japanese post and beam houses. For many years, Japan has provided the major market for hemlock lumber where it is sold "green" – that is, not kiln dried. In 2000 alone, Japanese buyers took $1.2 billion worth of coastal lumber, accounting for 43 percent of coast production, most of it green hemlock.

The economic slump in Japan after 1997 depressed import demand for all construction materials, but the special problem for hemlock lumber originated with the 1995 earthquake that shattered the city of Kobe. The widespread collapse of traditional Japanese post-and-beam houses led to demands for earthquake-resistant construction techniques and materials. In mid 2000 the Japanese government issued a new building code and builders' warranty program, which led builders to shun green hemlock in favour of kiln-dried lumber readily available from Scandinavia and elsewhere.

Western hemlock is notoriously difficult and costly to dry. Moreover, there is enough kiln drying capacity on the coast to handle only a small fraction of the volume previously sold in Japan. Consequently, the market for green hemlock lumber has slumped and the quantity shipped to Japan by coast producers has declined. B.C.'s share of Japan's lumber imports has fallen significantly over the past eight years, while aggressive European suppliers of kiln dried lumber, laminated beams and other advanced products have increased their share from about one percent to 25 percent during the 1990s.

The government and the industry can play a useful role in efforts to restore markets for hemlock lumber, in which both have an obvious interest. A research and development program, sponsored by the forest industry and the provincial and federal governments, has already made encouraging progress in developing practical technologies for kiln drying hemlock lumber. The program includes, also, development of new products, marketing strategies, and an action plan to re-position Canadian hemlock as the favoured material for housing construction in Japan. Meanwhile, a pilot project has been initiated to test a more market responsive method of determining stumpage prices for hemlock-dominant stands.

Domestic Barriers to Exports

While governments normally endeavour to keep foreign markets open to domestically produced products, both provincial and federal governments themselves obstruct the export of certain intermediate forest products. Logs are freely imported into British Columbia from Alaska, Alberta and elsewhere, but the provincial government restricts the sale of raw logs and pulp chips outside the province, including other parts of Canada, except under special permits. This policy applies to all logs cut on provincial Crown land and much of the private forest land as well.

Exempted from the provincial restrictions is timber cut on certain private lands, Indian lands and other lands under federal jurisdiction, but exports from these lands are restricted in a parallel fashion by the federal government. The federal restrictions were imposed as a wartime measure during World War II and apply only to private lands in British Columbia; in other provinces private timber may be marketed freely.

Both governments allow exemptions from their general export prohibitions and grant permits to export logs under certain conditions. However, permitted exports of sawlogs from land under provincial regulation are subject to a heavy export tax, or "fee in lieu of manufacture," based on the difference between the domestic and export prices. All exports of logs from Canada require a federal permit, including those requiring a provincial permit, but the federal regulation does not include an export tax.

Because of these restrictions, exports of logs from British Columbia are modest, averaging a little more than a million cubic metres annually over the last decade. Exports, mainly to U.S. and East Asian markets, were almost entirely from the coast and were roughly offset by imports to interior mills from Alberta and the northern territories. However, during the last few years, while lumber markets withered, exports have more than doubled to over 2.5 million cubic metres.

The restrictions on log exports are a subject of endless debate. Advocates defend them on grounds of promoting local manufacturing and manufacturing employment. Critics point out that this argument is weak when local mills do not fully utilize the available timber supply, as is presently the case, and even if the restrictions benefit manufacturing employment they have the opposite impact on the harvesting sector.

Here it is important to note that certain grades and species of logs often fetch considerably higher prices in foreign markets. Artificial barriers to such sales have the same effect of lowering the return on our forest resources as the barriers foreign governments put on imports of Canadian forest products. They are also a major irritant in lumber trade relations with the United States.

Markets for Logs and Chips

Local markets for logs play an important role in the forest industry, because vigorous, easily accessible and reliable markets for trading logs are essential for ensuring timber is used to best advantage. Log markets facilitate the exchange of logs of widely varying species and grades, channeling them to the mills that can realize their highest value. Moreover, markets open to competing log buyers guarantee forestry enterprises full value for the logs they produce, and provide mill owners a reliable source of raw material at fair prices. They also open up opportunities for small, specialized and value-added manufacturing enterprises. Similarly, a vigorous, competitive market for pulp chips serves a valuable function for both the producers and consumers.

The loose network of log buyers for the integrated companies, log brokers and independent logging and sawmilling companies, continuously buying, selling and trading logs along the coast, comprise the Vancouver Log Market. Over the past five years, about 23 percent of the logs cut on the coast passed through this market. Vancouver Log Market prices provide the accepted baseline for valuing logs and timber throughout the coast

The main concern about the log market is that it is becoming too small, with too few buyers and sellers, and insufficient competition to serve its function efficiently. Five large companies account for most of the sales, three of them for the majority of purchases. Most transactions are not independent purchases or sales, but trades of one type of logs for another, enabling integrated companies to adjust their log supply to better fit their mill requirements. In these circumstances, independent log producers complain that there are insufficient buyers for truly competitive marketing and pricing. And independent sawmillers and manufacturers find that the market is not a reliable source of raw material for those who do not have logs of their own to trade.

From the point of view of the public interest, it is important that log and chip markets function effectively, openly and competitively. They should be big enough that milling enterprises can rely on them as a source of raw material, and buyers and sellers can rely on the prices they generate as representing of the full range of domestic and export market values.

Policy changes in the past, notably those, referred to earlier, that have required licensees of Crown timber to maintain and operate their own mills, have weakened the log market. Realization of the industry's full economic potential calls for strengthening it.

In light of the unhealthy and unsustainable condition of the coast forest industry, what should the government do? Should it promote rationalization of operations and mills or try to maintain things as they are? Should it intervene to steer events or simply let them unfold as they will? How should social policy objectives such as maintaining local jobs figure in its effort to revitalize the industry? And how much should we leave to the private sector?

I have found no clear governmental policy direction to help answer these fundamental questions, but they must be addressed before attempting reforms. Certainly, the provincial government is deeply involved in managing the forest industry; it owns most of the forest resources and decides how much timber will be available, how it will be allocated among firms, how it may be harvested and how much it will cost. It also regulates in important ways how and where timber may be manufactured and the products marketed. So we do not begin with a clean slate.

Basic Objectives

The government's response to the current pressures on the industry should be answered with reference to its objectives: what is it that we want to achieve? The answer, I suggest, flows from the basic public interest in all economic activity – to improve people's standard of living. The forest industry's contribution to economic improvement takes the form of incomes of employees, profits of investors and revenues of governments, and less directly, of community and regional development. Our forest resources provide us with an opportunity – an enormous opportunity by world comparisons – to generate these economic benefits through production of forest products.

The more value we create by producing forest products, net of the costs of producing them – that is, the more efficient our forest industry – the greater these economic benefits will be. So a primary concern of government economic policy is to provide a framework of laws and institutions to enable industries like the forest industry to operate efficiently.

In our mixed, market economy, we rely heavily on private enterprises to operate efficiently – maximizing value and minimizing costs – following their financial incentives. But economic benefits are not our only concern, of course. We want our governments to regulate industrial activity to protect the environment, provide recreation opportunities, ensure the safety of workers and protect the public interest in a host of other ways, and these interventions often impinge on the ability of firms to simply maximize economic benefits. Thus the *Ministry of Forests Act* requires the Ministry to "encourage a vigorous, efficient and world competitive timber processing industry in British Columbia" but at the same time to manage and conserve Crown forests for the full range of commercial and non-commercial benefits they provide.

I emphasize this fundamental public interest in the forest industry here because my terms of reference call for investigation of the "economic health, competitiveness and sustainability" of the industry and the obstacles to improvement. In any examination of British Columbia's forest industry it quickly becomes apparent that it is heavily regulated by the provincial government, and many regulatory controls have little regard for economic objectives. They are often rooted instead in venerable traditions of forestry which conflict with economic performance. Decisions about how much timber may be harvested each year – surely among the most important economic decisions the provincial government makes – are based primarily on biological and technical principles relating to stocks of timber and growth rates measured in cubic metres, with only secondary consideration of the values involved. Controls on the extent to which licensees may vary harvests from one year to the next refer only to volumes to be cut, without reference to economic conditions. Standards for utilization and silviculture and some of the other controls discussed in this report are devoid of economic rationale. The cost of these policies, in terms of reduced economic benefits, is often very high.

Over the decades, forest policy in this province has been shaped by social objectives as well. In an effort to provide community stability, companies are restricted from closing even obsolete mills; to promote employment in mills the export of logs is prohibited; the licensing system and other regulations are designed to protect or promote the positions of particular groups. These controls have little to do with managing forest resources, but they have become part of forest policy, administered by the Ministry of Forests. Many of them were motivated by laudable social concerns, but they have rarely been analysed to determine their effectiveness, or whether there are more effective ways of achieving the objectives.

In the past, all these constraints on the ability of forest enterprises to operate efficiently in economic terms could be absorbed by the premium world markets were willing to pay for the superior products produced from old-growth coastal timber. That premium has now largely disappeared along with the best of our original stock of natural timber, and today our producers have to compete head to head with producers elsewhere in intense international competition, in a world oversupplied with wood products.

Consequently, if we are to continue to take advantage of the economic opportunities afforded by our coastal forest resources, we must re-examine these accumulated impediments to low-cost, internationally competitive production. This is not to say that we should abolish all our regulatory controls, but it does imply that we should assess them critically, to determine whether they serve a useful purpose, and whether they do so more effectively than alternative measures.

Accordingly, the answer to the question about what we want to achieve is, I suggest, a healthy, efficient and sustainable forest industry. By this, I mean an industry having certain characteristics, i.e.

- *Its production of timber should be within the sustainable capacity of the forests.*
- *The size and capacity of the harvesting and manufacturing sectors, operating with maximum efficiency, should be consistent with the available timber supply.*
- *Its structure and technology should enable it to generate the maximum possible return on the forest assets devoted to commercial use.*
- *It should yield profits sufficient to attract new investment in forests and manufacturing plants and reasonable payments for Crown timber.*
- *It should be capable of responding flexibly to changing technologies and market conditions.*
- *It should provide high-quality employment, as stable as market conditions allow, while maintaining high standards of health, safety and environmental stewardship*

There can be little doubt that an industry with these features is possible. Coastal British Columbia is among the world's most productive softwood forest regions. It has a well-established industry, a strong and skilled labour force, substantial infrastructure and a favourable location in relation to the world's biggest markets for forest products. In short, it has all the components essential for a successful industry. Its current challenge lies in reforming a legacy of governmental policies and corporate practices that have impaired its performance and distorted its development.

The goal of a healthy, sustainable industry provides a criterion for assessing the efficacy of governmental forest policies and the industry's own practices. In earlier sections of this report I pointed to a variety of policies, regulations and practices that impede the industry's modernization and development. In many cases they have a powerful influence, distorting the structure of the industry and impairing its performance substantially. In the following section of this report I suggest that attention to these impediments can restore the industry's economic viability.

Toward a More Proactive Approach

The question of whether the government should contemplate downsizing and rationalization of manufacturing capacity is answered by the facts of existing overcapacity, declining raw material supply and technological change driving economies of scale. Put simply, rationalization is inevitable, because the present structure is unsustainable. As I have already noted, mill closures and curtailments have been proceeding apace and more are likely, notwithstanding government policies aimed at preventing them. Government cannot force private enterprises to operate at a loss, nor is it a constructive economic policy to encourage them to do so. And if unprofitable operations are to be made profitable, rationalization must take place.

A more challenging question is whether government should continue to resist shutdowns and rationalization, or take action to accommodate them. The government's efforts to maintain the continuity of forest and milling operations in the face of market fluctuations and changing industrial conditions by means of cut controls, mill requirements and financial assistance are, in the long run, of doubtful effectiveness, as recent closures and curtailments demonstrate. Moreover, they all have the effect of dissipating economic returns and impairing the ability of companies to respond to changing conditions. In the long run, they aggravate and perpetuate the industry's poor economic performance.

As I have explained, the government's policy toward shutdowns and mill closures has been to resist them, and often to provide support to keep failing mills operating. But these measures involve an assumption, often mistaken, that the company's problems are temporary. They also involve the premise that it is always in the public interest to avoid closures, regardless of any potential improvement in industrial performance.

This is not to say that government's concern for stability of employment and communities is misguided; quite the contrary. The point is that these important social objectives are not effectively served by manipulating the way forests and mills are managed. Moreover, attempts to do so weaken the forest economy. And healthy forest communities and job opportunities depend, ultimately, on a healthy forest industry.

In any event, these regulatory efforts to maintain the status quo have often failed to keep foundering operations afloat for long. And when a company finally closes a mill, the government's power to cancel its timber rights penalizes, in effect, the companies' attempts to rationalize and improve performance.

An alternative to this past policy of assisting failing operations and penalizing rationalization is to do the opposite. To assist the transition to a healthy, sustainable industry, the government should facilitate rationalization rather than obstruct it, and redirect government effort and resources from supporting failing enterprises to helping workers and communities adjust to changing circumstances. This would certainly be more consistent with the Ministry of Forests' responsibility to "encourage a vigorous, efficient and world-competitive timber processing industry in British Columbia".

Preceding sections of this report have painted a bleak picture of the coast forest industry. Declining raw material supply, uncompetitive production costs and obstructed access to product markets have combined to result in low earnings, shutdowns and layoffs, and an expectation of continuing decline. In this section, I turn to the alternative possibilities: can the industry be a healthy, profitable one with the characteristics of efficiency and sustainability I outlined above? If so, what would it look like, and how could it be brought about?

In the following paragraphs I suggest how an efficient, sustainable coast forest industry would differ from its present form and structure. This is, to some degree, speculative. Moreover, it should be borne in mind that the structure of our well-established industry can be substantially changed only over a period of years. On the other hand, over long periods of time, changes in markets, technology and public demands affect the development of the industry in unpredictable ways. So I confine this discussion to the foreseeable future of the next decade or so.

Size and Shape of a Sustainable Industry

We must start with the timber supply, with reference to my earlier discussion of trends in the sustainable supply of timber. The Ministry predicts an allowable annual cut of timber on the coast a decade from now of about 19 million cubic metres. For reasons I explained earlier, it is reasonable to expect that it will turn out to be less than this, so for present purposes I estimate an allowable harvest of 17.5 million cubic metres. Assuming an additional supply from unregulated lands at the present level of about 6 million cubic metres, and net log exports at the present level of roughly 2.5 million, we can expect a total supply available to domestic mills of about 21 million cubic metres. This is somewhat lower than it has been in the past, and lower, also, than it is expected to be in the more distant future.

However, it is important to note that while the allowable annual cut will decline, it does not follow that the actual harvest must decline. This is because harvests on regulated lands have fallen considerably short of the allowable level since the mid-1990s, and are within the projected allowable level for the next decade.

We can predict with some confidence that most coast timber will continue to be utilized most efficiently in sawmills. Historically, a little more than 20 percent of coast logs go directly to pulp mills or other uses. The percentage not useable in sawmills is lower for second growth, closer to 10 percent.

Over the next decade, the second growth component of the timber harvest can be expected to increase sharply, to around 10 million cubic metres, as projected in Figure 7. Of this, some 9 million will be suitable for processing in sawmills. Experience in Washington and Oregon, where the transition to second growth has advanced much further, suggests that mills designed to efficiently process second growth consume 650,000 to 800,000 cubic metres per year. This implies that to efficiently manufacture the second growth component of the harvest, 11 to 14 of these large mills will be needed, most of which will have to be newly constructed.

The remaining 11 million cubic metres of timber supply will consist of old growth, about 9 million of which will be suitable for processing in existing mills with smaller capacity. However, as I noted earlier, many of these mills are outdated, poorly located in relation to the supply of timber or transportation infrastructure, or otherwise inefficient. If the best of them were upgraded with modern technology, perhaps 20 to 25 would be needed, operating efficiently at full two-shift capacity – about half the current number.

If the present regulatory ties between mills and rights to Crown timber were loosened, we could expect increased log trading and more efficient utilization of timber among mills. With log markets offering a reliable source of raw material, new wood manufacturing enterprises could be expected to emerge. There is already a considerable number of small lumber and other specialized mills; they collectively manufacture a little more than one percent of the timber supply, but they produce high-valued products and provide substantial employment. The type of new, specialized, value-added ventures that would be developed in response to improved log markets is difficult to predict, but this opportunity for innovation and entrepreneurship would add diversity and energy to the industry.

While the general direction of changes toward a more efficient industrial structure are fairly clear, the speed with which they will occur and the dislocation they will cause are less certain. In the logging sector, the change in total production and employment from current levels might not be highly disruptive. However, the industry will have to adjust to increasing harvests of second growth and geographical shifts of operations.

In the manufacturing sector, employment is likely to decline as new higher-productivity mills replace the old. But the jobs provided will be of higher quality and more secure.

A significant opportunity for increased employment may be expected in new, smaller-scale, specialized, wood manufacturing enterprises that are likely to emerge with expanded log marketing. Increased employment in forestry could be expected as well, resulting from improvement in the security of timber rights and more flexible licensing arrangements.

Financial Performance

Revitalizing the coast forest industry will take investment, and investors will provide the capital only if they foresee a reasonable rate of return. So we must consider whether an efficiently reconstructed industry would be profitable enough to attract the investment necessary.

There is reason to believe that it could be financially attractive. To put in perspective the challenge of restoring the industry's basic financial health, it is helpful to note that the Coast Forest and Lumber Association, representing the logging and lumber producing industries, recently forecast the industries' loss in the current year at a little less than $14 per cubic metre. Reduction of costs or increase in revenue, or both, of this amount would, in similar circumstances, enable the industry to break even.

This is not adequate financial performance, of course. A minimum measure of adequacy is an average rate of return on invested capital equal to the cost of capital, which the industry estimates at 12 percent. The improvement required to achieve this is estimated at $30 to $35 per cubic metre.

To illustrate the possibilities of achieving this minimal target it is helpful to refer to the cost of logs – the largest and most worrisome component of lumber production costs. Figure 12 summarizes the Ministry's estimates of the net value, per cubic metre, of the timber in each of the 332 cutting permits issued to licensees of Crown timber on the coast and evaluated in July 2001 for stumpage assessment purposes. (We must be cautious in drawing conclusions from the absolute values in this compilation, because they are intended only to establish the values of cutting permits relative to the average.) This data shows that the average value of the timber authorised for harvesting was negative. Nearly two-thirds of the total volume of timber authorised for harvesting was of negative net value, in some cases as low as minus $50 per cubic metre. Overall, the value in good timber is wiped out by the losses on the poor, and the addition of stumpage fees, not included in Figure 12, goes a long way to explaining the poor financial performance of the coast logging sector.

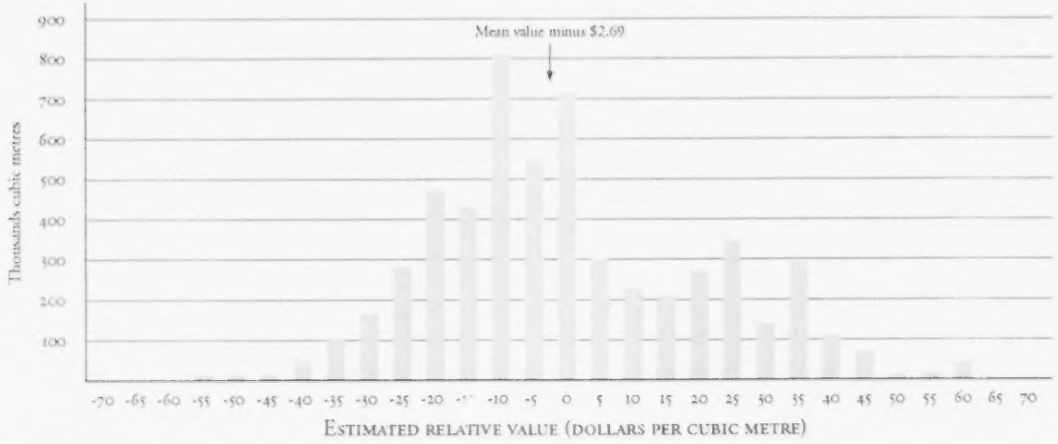
An obvious way to improve the industry's financial performance is to stop authorising and requiring companies to log timber of negative value. To illustrate (again with the caution that these numbers are only indicative), if all the cutting permits showing negative value were excluded, the average value would rise from minus $3 per cubic metre to plus $20, an improvement of $23 per cubic metre over the actual average.

Excluding timber of negative value would, of course, reduce the timber supply, unless other more valuable timber could be found. Nevertheless, the aggregate net return on log production, which would accrue to either the Crown owner or the private user or both, would be substantially greater. Less timber would be exploited and more value generated.

The policy of harvesting timber of negative value is perplexing. The explanation is that it is included in the merchantable timber inventory, all of which is committed under licences to be harvested. The present policy of using good timber to support the logging of poor timber is a stark reflection of the preoccupation with maximizing volume rather than value, noted earlier in this report.

figure 12.

Relative value of timber in coast cutting permits *



Source: Ministry of Forests

*Distribution of value indexes (estimated selling price less estimated operating costs) for coast cutting permits July 2001
Rounded to nearest $5.00

Moreover, the proportion of timber in the positive-value category could be increased. Earlier I drew attention to several regulatory measures that impose significant costs or reduce the value of harvests – utilization standards, cut controls, log export restrictions, burdensome administrative arrangements for forest practices regulation and rigid industrial relationships – all of which offer considerable scope for improvement. The available data indicating how much net returns could be increased by these means is fragmentary, but if, for purposes of illustration here, they produced an improvement of, say, $25 per cubic metre, shifting all the data in Figure 12 to the right by that amount, then nearly 90 percent of the total volume would lie in the profitable range. A shift of that magnitude would raise the average net value to $26 per cubic metre.

I do not suggest that these illustrative calculations are reliable or that the potential improvement they imply could be easily achieved. But they are sufficient to indicate that reform of logging and forestry regulations could make a major contribution to restoration of the industry's economic viability. Further evidence of the scope for financial improvement through regulatory reform is the significant increase in the value of private land when it is withdrawn from Tree Farm Licences, which frees it from cut controls, the forest practices regulations and log export restrictions. The significantly lower cost of log production in Washington and Oregon is also informative.

There are other promising avenues of improvement as well. If the manufacturing industry were free to rationalize operations, lower lumber production costs would result. Financial performance surveys of coastal mills reveal an extraordinarily wide range of costs and operating earnings per thousand board feet of lumber produced – a reflection of the diversity of operations as well as the regulatory rigidities and distortions noted earlier in this report. If rationalization resulted in closure of the worst-performing quarter or half of the existing mills, average operating earnings would increase substantially. Another important area for potential improvement in costs is the arrangements governing the relationships between operating companies, labour and contractors.

In short, restoration of minimal financial health to the industry, based on the benchmark of earning its cost of capital, is a reasonable and achievable short-term target. But the regulatory changes discussed above will not be sufficient to enable the industry to operate at maximum efficiency. That will require more profound changes in the forest tenure system and method of allocating rights, in log markets and in corporate management.

Private Sector Responsibilities

While there is wide scope for improving the industry's financial performance by streamlining governmental regulations and practices, the private sector will have to play its part in putting the industry back on its feet. Companies, labour unions, contractors and other private sector groups will have to be prepared to make changes, and sacrifices, to restore the industry to economic health.

Forest products companies, given encouragement through governmental reforms, must respond to new opportunities for investment. Restoration of this region as a favoured source of forest products in world markets will take substantial investment in mill upgrading and replacement, forest development and silviculture, industrial infrastructure and product development.

To regain its competitive position among world supply regions, the industry must aggressively reduce its operating costs as well. Particularly urgent is the need to address the exceptionally high cost of labour. This is not simply a problem of wage rates; it needs to be considered as part of the larger problem of productivity, which is affected by training, work rules and working conditions, technology and the sophistication of plant and equipment. A related matter is the inflexible arrangements between operating companies and organizations of labour and contractors. In view of the extent to which these relationships have become institutionalized and intractable, significant reform will likely be difficult and may require governmental

involvement. In any event the improvements in productivity and competitiveness needed to secure the industry's strength in world markets will call for an unusual degree of cooperation and joint effort.

A vigorous new effort in product development is needed as well. The coast industry's declining market share in its major markets in recent years has been associated with intrusions of new products from Europe and other competing regions designed to better meet consumers' needs. Methods of marketing have also fallen behind and competitors have been keen to exploit these weaknesses. The coast industry finds itself in a rapidly changing market environment in which wood products are plentiful, their character and quality are developing rapidly, and they are being aggressively marketed by sophisticated competitors keen to respond to the requirements of customers. The government and the industry have a common interest in restoring and maintaining world demand for coast forest products, which will require much stronger effort in this new environment.

A particularly important case in point is the market for hemlock lumber. The coast industry's fortunes depend heavily on the manufacture of high quality lumber from hemlock and market acceptance of it, especially in Japan.

Ongoing treaty negotiations challenge the forest industry to find ways of reconciling logging and other activities with the unsettled interests of aboriginal people. Some progress has been made in establishing cooperative and mutually beneficial arrangements between operating companies and local native organizations. Earlier this year, the provincial government and First Nations in the north and central coast signed a protocol, supported also by logging companies, environmental groups and local governments, establishing a framework for recognising First Nations' interests and exploring opportunities for their participation in resource development. This will help to reduce uncertainty about these processes. But there remains a heavy task to implement the commitments.

To realize its full potential the industry must also respond to public concerns, here and abroad, about its environmental and social impacts. Although significant improvements in forest practices have been made in recent years, the forest industry has some way to go to reassure residents of British Columbia about the environmental impacts of industrial forest operations. Until there is more confidence that environmental effects are acceptable and forest practices are sustainable, uncertainty and interruptions of operations will almost certainly continue. The security of foreign markets also depends on assurances to environmental groups elsewhere, through certification and other methods, that coastal forests are well managed and used.

The foreseeable scale of rationalization of manufacturing operations presents a threat of economic and social disruption to many communities. Acceptance of such changes will depend on much more coherent and consistent strategies on the part of industry and government for cushioning the impacts, and helping people and communities adjust.

Most importantly, stakeholders in the forest industry must recognise that its present structure is not sustainable and that fundamental changes, even painful ones, must be made. They must be ready and willing to accept change, to share the burden of change, and to cooperate in bringing it about. This need for cooperative effort will require their confidence in the process, which will depend heavily on clear direction and leadership from the government.

The coastal forest industry is in critical condition. This report has documented a progressive deterioration in its financial performance, especially over the last six years. Its rate of return on capital has fallen well below its cost of capital. Investment has withered, and plant and equipment is aging. Pulp mills and sawmills have closed at an unprecedented rate, disrupting workers and communities throughout the coast. The outlook is for further decline. In short, its performance is unsustainable.

The crisis has been brought to a head by sharply reduced opportunities in both of the industry's two major product markets, the United States and Japan. But other threats to the industry's performance are of our own making and have been growing for many years. Restrictions on the ability of companies to adjust production in response to market conditions, requirements to operate mills even though they are obsolete and uneconomic, inflexible rules governing utilization standards and forest practices, and numerous other regulations impair earnings and prevent realization of maximum value from the forest resources used. The industry has failed to keep pace with changes in the timber supply, new products and technologies for producing them, and labour costs and productivity. As international competition in forest products markets has stiffened in recent years, and the quantity and quality of coastal timber has declined, these failings have become costly impediments to the industry's performance.

These growing pressures must be seen in the context of an inhospitable political climate for the forest industry in recent years. Strong critics of its environmental performance have restricted its access to timber at home and to markets abroad. Unsettled native land claims have added further uncertainty about the timber supply. And over the last decade, as the industry's condition has deteriorated, the provincial government has failed to resolve any of these issues: indeed, its actions, especially on land allocation, forest practices and the stumpage system have aggravated the industry's difficulties. Certainly, the industry has lacked clear direction from government about its future in the provincial economy.

Because of this recent history, the government can do a great deal to improve the industry's economic performance by simply allowing it more flexibility to respond to market forces and opportunities, and by reversing the overburden of regulatory controls accumulated over past decades. Firm action on this front would not only help to improve earnings but would demonstrate the government's resolve to restore the industry's place in the provincial economy, an important step in rebuilding investor confidence.

My mandate does not extend to recommending the changes that should be made to solve the industry's problems, but this investigation has led me to certain conclusions about how the government might best proceed in developing and executing an action plan. In view of the present bleak outlook for the coastal forest sector, the government should act quickly to enable the industry to improve its financial performance. The most urgent issue is the dispute with the United States over trade in lumber. This deserves top priority, at the highest levels, in Ottawa and Victoria.

A reasonable resolution of the problem of exports of lumber to the United States will enable coastal operations to begin to get back to work, but will not likely be sufficient to yield adequate returns to the industry. To start the process of improvement, the government should begin streamlining and reforming the regulatory obstacles to improved financial performance noted in this report. Restrictive regulations should be modified or eliminated with a view toward reducing costs and increasing the value of forest production, wherever there are opportunities to do so without compromising worker safety or environmental standards.

Among candidates for modification or elimination are the penalties for closing poorly-performing mills. Since mill shutdowns are almost inevitable in any event, the action plan should include a simultaneous review of the measures to be taken by both companies and governments to mitigate impacts and facilitate adjustment.

These initial steps in policy reform should be designed to leave open the full range of options for more profound changes to come. But it will be important for the government to outline a clear direction and vigorous process for reform, to overcome the uncertainty and inaction of recent years and to give operating companies the confidence they need to plan for the future and make investment decisions. For this reason, also, the initial measures should be bold. And to the extent possible, they should complement any changes in stumpage policy and other arrangements arising from negotiations with the United States over access to lumber markets.

Simultaneously, the companies and organizations of labour and contractors involved in the industry should be challenged to develop their own plans for cost reduction and improvements in productivity, product development and marketing.

Some issues will take longer, and call for a more measured, investigative process. Most important is the forest tenure system, the cornerstone of provincial forest policy. The elaborate array of licences and other forms of rights to forest resources and their attendant regulatory arrangements is exceedingly complicated, and existing contractual obligations and commitments over most of the timber supply constrain the scope and speed of practicable change. It is, nevertheless, overdue for thorough reform, but for this, more time and more structured, consultative arrangements are needed.

The economic development of British Columbia over the last century and our enviable standard of living today, owe much to the forest industry. This report has painted a disturbing picture of an industry in peril. But I want to close by emphasizing that it can be turned around. With sufficient effort and determination the coast forest industry can be redirected onto a much more promising path. This will take a good deal of cooperation, compromise and willingness to incur short-term pain among the many groups affected by the changes, but a transformation to healthy, sustainable industry is undoubtedly within reach.

My investigations over recent months have left me with the impression that everyone involved in the forest industry, and especially the leaders of timber companies, unions, contractors and the Ministry of Forests, have been preoccupied over the past decade by one crisis after another. The distraction of immediate problems has made it difficult for them to plan for the future, to think about where they would like to be a decade from now, and to plan strategically how to get there. Nor has the government provided clear policy direction. As a result the coast forest industry, dispute its potential, has been adrift, and sinking.

Nevertheless, today there is clearly a readiness for major change. The companies involved in the industry, labour representatives, contractors and other stakeholders almost unanimously voiced a need for a thorough review and overhaul of the way the coast forest industry operates and the government regulates it. Even as my investigation was underway, companies and others, as well as the government, were proposing and debating fundamental reforms. Moreover, while many differences exist, there is also considerable agreement on the broad direction of needed change. In this respect the industry's crisis presents the government with an opportunity for bold leadership, an opportunity to seize the readiness for change and steer the industry toward a more prosperous and sustainable future.

Literature Cited

1 *Binkley, Clark S. 1997. A crossroad in the forest: the path to a sustainable forest sector in BC. BC Studies 113: 39-61.*

2 *Coast Forest and Lumber Association. 2001. Regaining global competitiveness. Vancouver.*

3 *Finlay, Carolyn. 2001. Pilot projects under the BC Forest Practices Code – a springboard for change. Forestry Chronicle July-August 77(4): 677-684.*

4 *Haley, David. 1996. Paying the Piper: the cost of the British Columbia Forest Practices Code. Forum 3(5): 26-28. (Publication of the Association of BC Professional Foresters.)*

5 *KPMG; Perrin, Thorau and Associates Ltd.; Simons. 1997. Financial State of the Forest Industry and Delivered Wood Cost Drivers. Report prepared for the Ministry of Forests, Victoria.*

6 *Ministry of Forests. Primary Timber Processing Facilities in British Columbia. Economics and Trade Branch, Victoria (unpublished data).*

7 *PricewaterhouseCoopers. 1990-1999. The Forest Industry in British Columbia. Vancouver.*

8 *PricewaterhouseCoopers. 2001. International Comparison of Labour Component in Whitewood Lumber Direct Manufacturing Costs. Vancouver.*

9 *Stuart, William B. Forms of forestry regulation. Occasional Paper, Industrial Forestry Operations Research Coop. Virginia Tech. Blacksburg, Virginia.*

10 *Uhler, Russell S. and Peter D. Morrison,. 1986. Utilization standards and economic efficiency in British Columbia forests. Forest Economics and Policy Analysis Project. Inf. Rept. 86-1. University of British Columbia, Vancouver.*

11 *Zhang, D. and P.H. Pearse. 1996. Differences in silviculture investment under various types of forest tenure in British Columbia. Forest Science 42(4): 442-449.*